Japanese Patent Laid-open No.2005-177130 A

Publication date : July 7, 2005

Applicants : MATSUSHITA ELECTRIC IND. CO. LTD.

Title : Hand Dryer

Claims

1. A hand dryer comprising, a processing space in which hands can be inserted or taken out through an insertion port that is open to the outside, wherein working air current that is generated from a jet generating unit arranged inside the processing space is jetted to hands inserted into the processing space and moisture attached to hands is blown away based on motion energy of the working air current, and, furthermore, a site in which jet is generated is changed over time to jet working air current.

2. The hand dryer according to claim 1, wherein the site in which jet is generated is changed over time and a shape of the jet generating unit is changed to jet working air current.

3. The hand dryer according to claim 1, wherein the site in which jet is generated is changed over time and an amount of air is adjusted to jet working air current.

4. The hand dryer according to claim 1, wherein the site in which jet is generated is changed over time and an angle at which jet is entered is

changed with respect to the inserted hands to jet working air current.

5. The hand dryer according to claim 1, wherein the site in which jet is generated is changed to a direction perpendicular to a hand inserting direction over time to jet working air current.

6. The hand dryer according to claim 1, wherein the site in which jet is generated is changed to a skew direction that includes a certain angle with respect to the hand inserting direction over time to jet working air current.

7. The hand dryer according to claim 1, wherein the site in which jet is generated is changed over time based on a combination of the same direction, a right-angle direction, and a skew direction that includes a certain angle with respect to the hand inserting direction to jet working air current.

8. The hand dryer according to claim 1, wherein a hand detecting unit arranged in the processing space detects a size of a hand of a user, selects a site in which jet is generated, and changes the selected site in which jet is generated over time for injection.

9. The hand dryer according to one of claims 1 to 8, wherein working air current that is generated from the jet generating unit arranged inside the processing space in which hands can be inserted or extracted through the insertion port that is open to the outside is jetted to hands inserted into the processing space by changing the site in which jet is generated over time,

moisture attached to hands is blown away based on motion energy of the working air current, and a display unit is arranged near the jet generating unit in such a manner that a user can visually recognize the jet generating site from which the working air current is jetted.

10. The hand dryer according to one of claims 1 to 8, wherein materials that can block air current are used near the jet generating site as a method of changing the jet generating site.

11. The hand dryer according to one of claims 1 to 8, wherein materials that can block air current on an inner side of the device of the jet generating unit are used as a method of changing the jet generating site and the materials are slided.

12. The hand dryer according to one of claims 1 to 8, wherein an open/close unit is used at an opening of the jet generating unit as a method of changing the jet generating site.

13. The hand dryer according to one of claims 1 to 8, wherein a jet-side flow path is separated on a side of the jet generating unit and an air current switching unit is used as a method of changing the jet generating site.

14. The hand dryer according to one of claims 1 to 8, wherein a plurality of jet flow paths is used each of which has an air current blocking unit as a method of changing the jet generating site.

[Effect of the Invention]

[0015]

According to the present invention, a site in which jet is generated is changed over time to jet working air current and wind can be jetted to each site of hands without moving hands of a user. Therefore, an effective hand dryer can be provided in which sufficient drying can be obtained without irregularity of drying caused by a difference in how to use by a user, an uncomfortable feeling of a user because of slow drying is reduced, and electric power consumption can be effectively saved because working time becomes short.

[0016]

The site in which jet is generated is changed in a direction perpendicular to a hand inserting direction over time for injection, so that moisture attached to hands is removed in a direction from a thumb to a fifth finger or from a fifth finger to a thumb without a user moving his/her hands. Thus, moisture attached to hands can be removed at a minimum distance. Therefore, an effective hand dryer can be provided in which sufficient drying can be obtained in a short time without irregularity of drying caused by a difference in how to use by a user, an uncomfortable feeling of a user because of slow drying is reduced, and electric power consumption can be saved because working time becomes short.

[0017]

As a method of changing the jet generating site, a sealing material that can block air current near the jet generating unit is used, so that the site in

which jet is generated is freely changed without reciprocating and wind can be jetted to each site of hands without a user moving his/her hands. Therefore, an effective hand dryer can be provided in which, in addition to less returned wind, sufficient drying can be obtained without irregularity of drying caused by a difference in how to use by a user, an uncomfortable feeling of a user because of slow drying is reduced, and electric power consumption can be saved because working time becomes short.